Hypoglycemia Unawareness

Have you ever experienced low blood glucose that seemed to strike out of the blue? No shakiness, no dizziness, no heart palpitations, no sweating or hunger, just wham, one minute you're feeling fine and the next you can't think straight, you're wobbly on your feet, and you're slurring your speech?

That's a condition called "hypoglycemia unawareness," and it's a complication of diabetes, usually of type 1. The more frequent or severe your episodes of low blood glucose (hypoglycemia), the more likely you are to develop hypoglycemia unawareness.

The symptoms of hypoglycemia occur when your body releases hormones called catecholamines. However, if you have diabetes, and you experience frequent episodes of hypoglycemia, something can go awry with this natural warning system.

"It may be that the body loses sensitivity to catecholamines," says Christian Meyer, MD, director of the Clinical Research Center at the Carl T. Hayden VA Medical Center and associate professor of Clinical Medicine at the University of Arizona and recipient of an American Diabetes Association career development award. Meyer is using his Association funding to explore a potential treatment for hypoglycemia unawareness that would help the body become more sensitive to catecholamines.

Old Drug, New Use?

Meyer's study involves propranolol (Inderal), a blood pressure medication in a class of drugs called beta blockers. Meyer chose this drug to study because beta blockers have been shown to increase sensitivity to catecholamines in people who have congestive heart failure.

Thirty people with type 1 diabetes and hypoglycemia unawareness will participate in the study. First, the researchers will measure exactly how severe hypoglycemia awareness is in all participants. To this end, participants will come to the research center for an over-night stay, when their blood glucose will be stabilized. The next day they will receive an IV infusion of insulin and varying rates of glucose to lower their blood glucose in steps, each step lasting 45 minutes, until finally the participants' blood glucose is 42 mg/dl. During the study, the participants will complete questionnaires about their symptoms to determine the exact blood glucose level at which they recognize hypoglycemia.

If you've ever had a low of 42 mg/dl, this might seem frightening, particularly if you're used to having symptoms. But Meyer anticipates that most participants won't feel many symptoms because of their hypoglycemia unawareness.

Next, 15 of the participants will be assigned to take the beta blocker for four months. The other 15 participants will take a placebo (dummy pill). Neither the participants nor the researchers will know who is taking which pill.

After four months, the participants will stop taking pills for four days. Then they will return to the research center to retake the incremental blood glucose-lowering test. The participants will again fill out questionnaires as their blood glucose is lowered to determine the level at which they recognize hypoglycemia.

"Once all participants have completed the entire study, we'll find out who took the beta blocker and who took placebo, and see whether the people who took the beta blocker experienced symptoms of hypoglycemia earlier," Meyer explains.

If so, that would indicate that the beta blocker increased sensitivity to hypoglycemia.

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"Hypoglycemia unawareness is a vicious cycle. The more you experience hypoglycemia, the more likely you are to develop hypoglycemia unawareness, which in turn leads to more frequent hypoglycemia," says Meyer. "But it can be reversible. If you experience warning symptoms early enough during the development of hypoglycemia, you can treat it before it becomes more severe. The fewer episodes of hypoglycemia you have and the less severe they are, the earlier you'll recognize them. My idea is to improve the recognition of hypoglycemia by restoring the sensitivity to catecholamines using a beta blocker, and break the cycle."

From an American Diabetes Association Research Profile
Hypoglycemia Unawareness
Can Beta Blockers Help?
May 2004
by Terri Kordella

Volunteer Department Work Continues *By David Hollenback*

On many days the Carl T. Hayden Volunteer department is approached to lend their support. Through donated funds provided by veterans who leave us funding through their estates, fundraising through the annual golf tournament and a continuous committed support from the Veterans Service Organizations donated funds are used to provide for the needs of veterans that fall outside the realms of appropriated funding. Here are some recent examples.

When they were informed that Nutrition, Hospitality & Food Service (N, H & FS) might not have the funding to provide hygiene kits to all newly admitted inpatients they jumped into action and donated $375 in hygiene kits.

Voluntary continuously secures phone cards from the local VFW posts to keep patients in contact with their friends and family during their hospitalization.

They recently coordinated with various organizations to provide tray liners to enhance aesthetic appearances of trays during special holidays and events.

In March they purchased more than $1100 in security bars to deter wheelchair theft.

Voluntary recently charted into a new area of opportunity to support the surrounding communities. Beginning April 1, N, H & FS department began providing dinner meals to the local US VETS organization. To ensure success of this worthy cause the donated funds of $2000 were provided to repair the van that would transport the meals. This donation has made it possible to provide nutritious balanced meals to veterans within the community.

Their continuous support helps to ensure our veterans have what they need in the hospital or as outpatients in the community but perhaps more importantly they honor the commitment of the donations received to provide assistance to our veterans.

What Happens to Your Possessions When You Become an Inpatient? *By David Hollenback*

In the medical community when a person is ill we are so eager to treat the patient's ailments that sometimes we forget that they have come to us with personal belongings and effects.

Many of our patients come to our facility with money, jewelry, and articles that have sentimental value. After hospitalization they expect to leave with the items they came in with and there is nothing worse than when they are discharged without those items.. This can cause unnecessary stress, cost and inconvenience for the patient and our facility. This is why it is imperative that a thorough inventory of all patient belongings and effects are accounted for and documented in detail prior to admission.

Without proper inventory, illicit drugs and weapons could find their way into the facility. If you are a staff member performing the inventory on newly admitted patients, please ensure that a"Patient Belongings Card" is filled out in detail. All applicable fields such as: date of inventory, articles present at time of admission (including dentures, glasses, hearing aids, etc.), and signatures should be present and legible. If the patient requests that money remains with them please document the amount and have them sign the waiver at the bottom of the card. These cards should then be placed in the patient's clear plastic bag to be accompanied to the clothing room that day, or placed in the cages designated for patient belongings for next day pickup.

This process is essential in reducing the amount of claims and unidentified articles. Please ensure that all discharged patients that have belongings are sent to the clothing room to pick them up. By taking a little extra time and being more detailed we can protect both the patient and facility.